

PROPOSED RULES
OF THE DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

CHAPTER 391-3-33
RULES FOR PUBLIC WATER SYSTEMS TO IMPROVE WATER SUPPLY
EFFICIENCY

391-3-33-.01 Purpose of Rule.

The purpose of these Rules is to establish policies, procedures, requirements and standards to implement Chapter 5 of Title 12 of the Official Code of Georgia Annotated (O.C.G.A), relating to water resources as amended in the new Code Section 12-5-4.1, and as included in the Georgia Water Stewardship Act of 2010 to carry out the purposes of adopting standards for public water systems to improve the efficiency of water supply through the development and improvement of water loss abatement programs and to implement the industry's best management practices for controlling water loss by achieving recommended standards.

Authority O.C.G.A. Secs. 12-5-4 and 12-5-4.1.

391-3-33-.02 Definitions.

When used in this Chapter:

(1) "Apparent losses" means the sum of unauthorized consumption (theft or illegal use), customer water meter under-registration (inaccuracies with customer water meters) and data handling errors (meter reading and billing).

(2) "Billed metered consumption" means all metered consumption which is billed from all groups of customers, such as domestic, commercial, industrial or institutional. It does not include water that is metered and then billed, and exported to neighboring public water systems.

(3) "Certification statement" means that a Qualified Water Loss Auditor has certified that the auditor has examined the annual water loss audit results and the results meet the requirements in the Georgia Water System Audits and Water Loss Control Manual and the American Water Works Association methodology for water loss auditing.

(4) "Current Annual Real Losses (CARL)" means the real losses determined during the reporting year.

(5) "Director" means the Director of Environmental Protection Division of the Department of Natural Resources.

(6) "Division" means the Environmental Protection Division of the Department of Natural Resources.

(7) "Economic Level of Leakage" means the determination of the level of real (leakage) losses where the sum of the cost of the real loss reduction and the cost impact of the real losses is at a minimum. Reducing leakage levels below the Economic Level of Leakage is not cost-effective, as the cost of the leak abatement activities exceeds the value of water saved. Economic Level of Leakage is used for leakage reduction target setting and setting the frequency of leak survey investigations.

(8) "Infrastructure Leakage Index (ILI)" means the dimensionless performance indicator calculated by dividing the Current Annual Real Loss by the Unavoidable Annual Real Loss (i.e., CARL / UARL) best used for benchmarking leakage within a public water system.

(9) "Non-Revenue Water" means the sum of apparent losses, real losses, and authorized water consumption (unbilled metered and unmetered) that does not provide any revenue to the utility.

(10) "Operational Basic Apparent Losses" means a basic performance indicator that assesses Apparent Losses in gallons per service connection per day.

(11) "Operational Basic Real Losses" means a basic performance indicator that assesses Real Losses in gallons per service connection per day or gallons per miles of water distribution mains per day depending on the public water system's connection density.

(12) "Public water system" means a system for the provision to the public of piped water for human consumption, if such system regularly serves at least 3,300 individuals. Such term includes but is not limited to any collection, treatment, storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

(13) "Qualified Water Loss Auditor" means an individual who has completed a basic water loss auditing course approved by the Division and who demonstrates the knowledge, skills and ability to validate water loss audits in accordance with the Georgia Water System Audits and Water Loss Control Manual.

(14) "Real Losses" means the physical water losses from reservoir(s), the water treatment facility(ies), the pressurized public water system and the finished water storage tanks, up to the point of customer consumption. In metered systems this is the customer meter; in unmetered situations this is the first point of consumption within the property. The annual volume lost through all types of leaks, breaks and overflows depends on frequencies, flow rates, and average duration of individual leaks, breaks and overflows.

(15) "Unavoidable Annual Real Losses (UARL)" means a theoretical reference value representing the technical low limit of leakage that could be achieved if all of current best technology could be successfully applied and is a key variable in the calculation of the Infrastructure Leakage Index.

(16) "Unbilled metered consumption" means metered water consumption which is, for any reason, unbilled and does not include water exported to neighboring public water systems or utilities that is metered but unbilled.

(17) "Unbilled unmetered water consumption" means any kind of water consumption authorized by the public water system which is neither billed nor metered, and may include items such as fire-fighting, flushing of mains and sewers, or street cleaning, and does not include water exported to neighboring public water systems or utilities that is unmetered and unbilled.

(18) "Water audit data validity score" means a weighted scale, from 0 to 100, for the components of consumption and water loss that demonstrates a public water system's confidence and accuracy of data entered into a water audit software application.

(19) "Water loss audit" means the investigation and completion of an assessment of public water system infrastructure leakages and other losses in conformance with the Georgia Water Loss Audit guidance, International Water Association (IWA) and American Water Works Association (AWWA) methodology for water loss auditing and the latest release of the AWWA Water Loss Audit software application package.

(20) "Water exported" means the water sold to a neighboring water utility, public water system or regional water authority.

(21) "Water use efficiency" means the minimal amount of water that is technically and economically feasible to achieve an intended water use function and reduce water waste.

Authority O.C.G.A. Secs. 12-5-4 and 12-5-4.1.

391-3-33-.03 Applicability.

These rules apply to any public water system that regularly serves 3,300 or more individuals.

Authority O.C.G.A. Secs. 12-5-4 and 12-5-4.1.

391-3-33-.04 Water Loss Audits.

(1) **Water Loss Audits.** Public water systems shall conduct an annual water loss audit in accordance with the International Water Association (IWA) and American Water

Works Association (AWWA) methodology for water loss auditing as provided by the Division in the most current versions of the Georgia Water System Audits and Water Loss Control Manual and AWWA Water Audit Software.

(2) Reporting. By March 1 of each calendar year, annual water loss audit results for the previous calendar year shall be submitted to the Division in a form and manner prescribed by the Division and shall include documentation of the basis of the audit in the comments section of the Reporting Worksheet. A certification statement shall be included with each annual water loss audit reporting that a Qualified Water Loss Auditor has examined the annual water loss audit results and the results meet the requirements in the Georgia Water System Audits and Water Loss Control Manual and the American Water Works Association methodology for water loss auditing.

(3) Review by the Division. Public water systems shall cooperate with the Division during Division review of the submitted water loss audits, including providing responses to follow up questions by the Division and the submittal of additional supporting information for the audits. If the Division determines that an audit is of poor quality, the Division may require the Public water system to have their audit reviewed and resubmitted by a third party Qualified Water Loss Auditor.

Authority O.C.G.A. Secs. 12-5-4 and 12-5-4.1.

391-3-33-.05 Water Supply Efficiency Improvement.

(1) Water Loss Control Program. By July 1, 2016, Public water systems shall develop and conduct a water loss control program to investigate, assess, and implement efforts to improve water supply efficiency. Water loss control programs shall be updated periodically as needed. Water loss control programs may include, but are not limited to, the following:

(a) Leakage Management, including distribution system water leakage detection and repairs;

(b) Finished Water Meter Flow Verification;

(c) Customer Water Meter Testing and Calibration;

(d) Resource Allocation, including planned preventive maintenance; and

(e) Revenue Recovery Activities.

(2) Individualized Goals. Each public water system shall establish individual goals to set measures of water supply efficiency and to improve water supply efficiency. These measures may include, but are not limited to:

(a) Infrastructure Leakage Index;

(b) Water Audit Data Validity Score;

(c) Operational Basic Apparent Losses;

(d) Operational Basic Real Losses; and

(e) Economic Level of Leakage

(3) Demonstration of Progress.

(a) Public water systems shall make progress toward improving water supply efficiency. Progress may be demonstrated through process and performance measures:

1. Improvement in data validity score to the extent practicable for a specific utility as a process measure of data reliability;

2. The development and implementation of the water loss control program;

3. Improvement in performance measures once a reliable level of validity score has been achieved:

(i) Operational Basic Real Losses;

(ii) Operational Basic Apparent Losses; and

4. Economic Level of Leakage has been achieved and maintained.

(b) Demonstration of progress shall be documented by public water systems upon application to the Division for a water withdrawal permit or increase in permitted drinking water service connections and may be evaluated by the Division as part of the review of the following applications:

1. An application to renew a water withdrawal permit under the Georgia Groundwater Use Act of 1972, O.C.G.A. Section 12-5-90 et seq., or the Georgia Water Quality Control Act, O.C.G.A. Section 12-5-20 et seq.;

2. An application to modify an existing water withdrawal permit which includes an increase in the permitted water supply under the Georgia Groundwater Use Act of 1972, O.C.G.A. Section 12-5-90 et seq., or the Georgia Water Quality Control Act, O.C.G.A. Section 12-5-20 et seq.; or

3. An application to increase the number of permitted service connections issued to a public water system under the Georgia Safe Drinking Water Act of 1977, O.C.G.A. Section 12-5-170 et seq.

(c) For applications submitted after July 1, 2016 as described under paragraph (3)(b) above, failure to demonstrate progress toward improving water supply efficiency may result in an action by the Director including, but not limited to, the following:

1. A reduction under paragraph (3)(b)1. above in the permitted water quantity for a water withdrawal permit issued to the public water system under the Georgia Groundwater Use Act of 1972, O.C.G.A. Section 12-5-90 et seq., or the Georgia Water Quality Control Act, O.C.G.A. Section 12-5-20 et seq.;

2. A denial under paragraph (3)(b)2. above of an application to modify any water withdrawal permit issued to the public water system under the Georgia Groundwater Use Act of 1972, O.C.G.A. Section 12-5-90 et seq., or the Georgia Water Quality Control Act, O.C.G.A. Section 12-5-20 et seq.;

3. A denial under paragraph (3)(b)3. above of an application to increase the number of permitted service connections issued to the public water system under the Georgia Safe Drinking Water Act of 1977, O.C.G.A. Section 12-5-170 et seq.

(4) Administration and Enforcement.

The administration and enforcement of this Rule shall be in accordance with the Georgia Water Quality Control Act, the Georgia Groundwater Use Act, the Georgia Safe Drinking Water Act, and the Georgia Administrative Procedure Act.

Authority O.C.G.A. Secs. 12-5-4, 12-5-4.1, 12-5-20 et seq., 12-5-90 et seq., and 12-5-170 et seq.